

Amendment After Final Rejection
Serial No. 10/019,297
Attorney Docket No. 011700

AMENDMENTS TO THE CLAIMS

Listing of claims:

This listing of claims replaces all prior versions and listings of claims in the application.

Claim 1 (Currently Amended) A shower head with water purification function comprising a holding part formed so as to have a connection terminal with other parts and be held directly by hand, and a head part having a shower delivery port integrally formed at the tip of said holding part, wherein

said holding part comprising a water quality purification cartridge, which penetrates from the outer circumference to the inner circumference or from the inner circumference to the outer circumference to purify the water quality, wherein said water quality purification cartridge provides a water purification flow path which penetrates said water quality purification cartridge to form a delivery flow path towards said head part, and a raw water flow path constituting a flow path put side by side with said water purification flow path, which forms an inlet side flow path of said water purification flow path on the upstream side, and a delivery flow path towards said head part on the downstream side, without penetrating said water quality purification cartridge;

said head part comprising a flow path switching valve which switches between a delivery flow from said water purification flow path and a delivery flow from said raw water flow path, a straight delivery port provided side by side at a place where said shower delivery port is formed on the downstream side of said flow path switching valve, and a delivery flow switching valve which switches between a delivery flow from said straight delivery port and a delivery flow from said shower delivery port; ~~and~~

said flow path switching valve and said delivery flow switching valve are formed so as to be controlled from the outside of said head part independently of each other; and

wherein when said water purification flow path penetrates from the outer circumference to the inner circumference, the raw water flow path flows at the outer circumference, and when said water purification flow path penetrates from the inner circumference to the outer circumference, the raw water flow path flows at the inner circumference.

Claim 2 (Original) A shower head with water purification function according to claim 1, wherein said water purification flow path and said raw water flow path formed by the incorporation of said water quality purification cartridge are formed such that a flow path on the outer periphery of said water quality purification cartridge is formed as a part of said raw water flow path, and a flow path from said outer peripheral flow path to a central space formed in the

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central part thereof via a water quality purification material provided in said water quality purification cartridge is formed as a part of said water purification flow path.

Claim 3 (Withdrawn) A shower head with water purification function according to claim 1, wherein said water purification flow path and said raw water flow path formed by the incorporation of said water quality purification cartridge are formed such that a central space of said water quality purification cartridge is formed as a part of said raw water flow path, and a flow path from said central space to an outer peripheral flow path via a water quality purification material provided in said water quality purification cartridge is formed as a part of said water purification flow path.

Claim 4 (Previously Presented) A shower head with water purification function according to claim 1, wherein said flow path switching valve is provided with a water purification cutoff valve and a raw water cutoff valve separately.

Claim 5 (Previously Presented) A shower head with water purification function according to claim 1, wherein a collection section of said water purification flow path and said raw water flow path is provided on the downstream side of said flow path switching valve.

Claim 6 (Original) A shower head with water purification function according to claim 1, wherein an operating part of said flow path switching valve is incorporated in said head part, and an operation end of said operating part is made to protrude outwards of said head part.

Claim 7 (Previously Presented) A shower head with water purification function according to claim 6, wherein said flow path switching valve is formed as an alternately switching cutoff valve having a water purification cutoff valve and a raw water cutoff valve arranged side by side, such that a push button is formed as the operation end of said operating part, and the flow path is alternately cut off by this push button.

Claim 8 (Previously Presented) A shower head with water purification function according to claim 6, wherein said flow path switching valve is formed as an alternately switching cutoff valve having a water purification cutoff valve and a raw water cutoff valve

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arranged side by side, such that a control lever is formed as the operation end of said operating part, and the flow path is alternately cut off by this control lever.

Claim 9 (Original) A shower head with water purification function according to claim 7 or claim 8, wherein the water purification cutoff valve and the raw water cutoff valve of said alternately switching cutoff valve respectively comprise a spherical valving element.

Claim 10 (Original) A shower head with water purification function according to claim 1, wherein said delivery flow switching valve is formed as a delivery flow switching valve comprising an operating part formed so as to be able to switch the flow path from the outside of said head part.

Claim 11 (Original) A shower head with water purification function according to claim 1, wherein said delivery flow switching valve is formed as a cutoff valve operated by a lever and comprising control lever operated from the outside of said head part, as said operating part.

Claim 12 (Original) A shower head with water purification function according to claim 1, wherein said delivery flow switching valve is formed as a delivery flow switching valve comprising a rotary operating part which operates the delivery port from the outside of said head part.

Claim 13 (Previously Presented) A shower head with water purification function according to either one of claim 2 or claim 3, further comprising a germicidal ceramic and/or a sintered magnetic body installed in the flow path from said water quality purification material to said delivery flow switching valve.

Claim 14 (Previously Presented) A shower head with water purification function according to either one of claim 4 or claim 5, further comprising a germicidal ceramic and/or a sintered magnetic body installed in the flow path from said water quality purification material to said delivery flow switching valve.

Claim 15 (Original) A shower head with water purification function according to claim 1, wherein a hose connected to a faucet is connected to the connection terminal with said other parts.

Claim 16 (Original) A shower head with water purification function according to claim 1, wherein a delivery port of a faucet is directly connected to the connection terminal with said other parts.

Claim 17 (Withdrawn) A shower head with water purification function according to claim 1, wherein

said water quality purification cartridge which provides a water purification flow path penetrating said water quality purification cartridge, and a raw water flow path which does not penetrate said water quality purification cartridge, a space formed along an upstream side surface of said water quality purification cartridge forming a cartridge upstream side flow path;

said water purification flow path, said raw water flow path, and a downstream side flow path of said water quality purification cartridge each being formed independently;

said flow path switching valve which opens and closes the downstream side of said raw water flow path being formed downstream of said raw water flow path;

an upstream side surface of said water quality purification cartridge being cleaned by the raw water which flows through said raw water flow path when the flow path switching valve is opened.

Claim 18 (Withdrawn) A shower head with water purification function according to claim 17, wherein

said water quality purification cartridge including a water purification flow path penetrating said water quality purification cartridge, and a raw water flow path which does not penetrate said water quality purification cartridge, a space formed along an upstream side surface of said water quality purification cartridge forming a cartridge upstream side flow path;

said water purification flow path and said raw water flow path are formed such that a flow path on an outer periphery of said water quality purification cartridge is formed as a part of said raw water flow path, and a flow path from said outer periphery to a central space formed in the central part of said water purification cartridge via a water quality purification material provided in said water quality purification cartridge is formed as a part of said water purification flow path;

said water purification flow path, said raw water flow path, and a downstream side flow path of said water quality purification cartridge each being formed independently;

a flow path switching valve which opens and closes provided downstream of said raw water flow path.

Claim 19 (Withdrawn) A shower head with water purification function according to claim 17, wherein

said water quality purification cartridge including a water purification flow path penetrating said water quality purification cartridge, and a raw water flow path which does not penetrate said water quality purification cartridge, a space being formed along an upstream side surface of said water quality purification cartridge as a cartridge upstream side flow path;

said water purification flow path and said raw water flow path being formed such that a central space of said water quality purification cartridge is formed as a part of said raw water flow path, and a flow path from said central space to an outer peripheral flow path via a water quality purification material provided in said water quality purification cartridge is formed as a part of said water purification flow path;

said water purification flow path, said raw water flow path, and a downstream side flow path of said water quality purification cartridge each being formed independently; and

a flow path switching valve which opens and closes provided downstream of said raw water flow path.

Claim 20 (Currently Amended) ~~A structure for automatic cleaning of a water purification cartridge comprising:~~ for a shower head with water purification function according to

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claim 1, wherein a structure for automatic cleaning of a water purification cartridge is formed in the shower head;

said structure comprising:

said water quality purification cartridge including a water purification flow path penetrating said water quality purification cartridge, and a raw water flow path which does not penetrate said water quality purification cartridge, a space being formed along an upstream side surface of said water quality purification cartridge as a cartridge upstream side flow path;

said water purification flow path, said raw water flow path and a downstream side flow path of said water quality purification cartridge each being formed independently;

a flow path switching valve which opens and closes provided downstream of said raw water flow path; and

an upstream side surface of said water quality purification cartridge is cleaned by the raw water which flows through said raw water flow path wherein the flow path switching valve is opened to form an opening from said cartridge upstream side flow path to the downstream of said water quality purification cartridge.

Claim 21 (Withdrawn) A ~~structure for automatic cleaning~~ shower head with water purification function according to claim 20, wherein

said water purification flow path and said raw water flow path being formed such that a flow path on an outer periphery of said water quality purification cartridge is formed as a part of said raw water flow path, and a flow path from said outer periphery to a central space formed in the central part of said water quality purification cartridge via a water quality purification material provided in said water quality purification cartridge is formed as a part of said water purification flow path.

Claim 22 (Withdrawn) A ~~structure for automatic cleaning~~ shower head with water purification function according to claim 20, wherein

said water purification flow path and said raw water flow path being formed such that a central space of said water quality purification cartridge is formed as a part of said raw water flow path, and a flow path from said central space to an outer peripheral flow path via a water quality purification material provided in said water quality purification cartridge is formed as a part of said water purification flow path.

Claim 23 (Currently Amended) A ~~water purification cartridge for a~~ shower head with water purification function according to claim 1, wherein

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a water purification cartridge is contained in the shower head;

a water quality purification material is in the cartridge;

said water quality purification material is of a cylindrical shape, an outer diameter thereof being smaller than an inner diameter of a holding part for the cartridge, an end portion at a downstream side of the water purification material provided with a portion fitting into a cartridge accepting portion of the holding part, the water quality purification material having a central hole which opens at said end portion.

Claim 24 (Currently Amended) A ~~water purification cartridge~~ shower head with water purification function according to claim 23, wherein the central hole is provided concentrically with a central axis of the water purification material, and an end portion at the upstream side of the water purification material is closed.

Claim 25 (Currently Amended) A ~~water purification cartridge~~ shower head with water purification function according to claim 24, further comprising a germicidal ceramic arranged along the end surface of the downstream side of the water purification material.

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Claim 26 (Currently Amended) A ~~water purification cartridge~~ shower head with water purification function according to claim 23, wherein said central hole opens at both ends of the water purification material, both ends being provided with a portion fitting into said cartridge accepting portion.

Claim 27 (Currently Amended) A ~~water purification cartridge~~ shower head with water purification function according to claim 26, further comprising a germicidal ceramic arranged along an outer peripheral surface of said water quality purification material.